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GREISINGER

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Conductivity measuring cell

as of version 1.7

Operating Manual

LF ...

LF 425

LF 400

LF 210

CE

Made in Germany

WEEE-Reg.-Nr. DE 93889386

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CONTENTS

1 Intended use

Measurements of conductivity resistivity, salinity and TDS fitted with the devices
GMH 5430/50, GHM Silverline SLC

Applications:

- Aquaristics , Fish farming
- Drinking water
- petrol, diesel: LF 210

etc.

2 General advice

Read through this document attentively and make yourself familiar to the operation of the device before you use it. Keep this document in a ready-to-hand way in order to be able to look up in the case of doubt.

3 Safety instructions

This device has been designed and tested in accordance to the safety regulations for electronic devices. However, its trouble-free operation and reliability cannot be guaranteed unless the standard safety measures and special safety advises given in this manual will be adhered to when using it.

1. Trouble-free operation and reliability of the device can only be guaranteed if it is not subjected to any other climatic conditions than those stated under “Specification”.
2. **Warning:** Do not use this product as safety or emergency stop device or in any other application where failure of the product could result in personal injury or material damage. Failure to comply with these instructions could result in death or serious injury and material damage

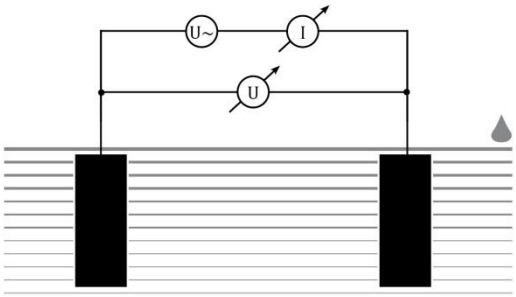
4 Operating and maintenance:

- Treat device and probes carefully. Use only in accordance with above specification. (do not throw, hit against etc.). Protect from soiling.
- The measuring cell must never come into contact with water-repellent materials such as oil or silicone.
- Cleaning

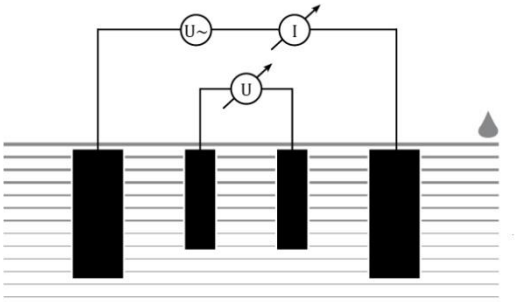
Contamination	Cleaning Solution
water soluble	deionized water
grease , oil	warm water and household cleaning solution

5 General information about conductivity measuring

Basically there are two types of measuring cells: 2-pole and 4-pole cells. The operation is done similarly; the 4-pole measuring cells can compensate polarization effects and – up to some degree – soiling due to its complex measuring method.



2-pole measuring cell



4-pole measuring cell

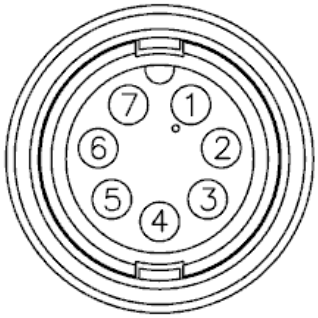
The selection of a suitable electrode depends on the desired application.

- The **widest range of application** is guaranteed by high-quality 4-pole graphite measuring cells (**LF 400 or LF 425**, all the above applications and: seawaters, titration and sewage).
- 2-pole platinum electrodes with glass shaft are good solution for used in **petrol, diesel, etc. with low conductivities (< 1000 µS/cm)** (**LF 210**)

6 Disposal notes

This device must not be disposed as “residual waste”.
To dispose this device, please send it directly to us (adequately stamped).
We will dispose it appropriately and environmentally friendly.

7 Assignments



Front View

Pin	LF 210	LF 400 / 425
1	measuring cell 1	supply 1
2	measuring cell 1	signal 1
3	measuring cell 2	signal 2
4	measuring cell 2	supply 2
5	temperature	temperature
6	temperature	temperature
7	Not connected	Not connected

8 Specification

Measuring Cell	LF 210	FL 400	LF425
number of electrodes	2	4	4
Material	platinum	graphite	graphite
materials	glass	316 stainless steel	PVC-C
in contact to media	platinum	graphite epoxy	graphite epoxy
Cell constant	1 ± 0,2 cm^{-1}	0,55 ± 0,04 cm^{-1}	0,4 ± 0,02 cm^{-1}
Temperature measurement			
Sensor	NTC (10 kΩ / 25 °C)	NTC (10 kΩ / 25 °C)	Pt 1000
Meas. Ranges			
Conductivity	0…1000 µS/cm	0…200 mS/cm	0…1000 mS/cm
Temperature	-5…+80 °C	-5…+80 °C	-5…+80 °C
Dimensions			
Shaft diameter	12 mm	12 mm	16 mm
Shaft length	120 mm	120 mm	145 mm
Cable length	ca. 1 m	ca. 1 m	1 m
Immersion depth	100 mm	100 mm	100 mm
Guarantee	12 month (assuming appropriate usage)		
Accuracy			
Conductivity: depending on display instrument	Better ±0,5% of m.v. ±0,2 % FS or ±2 µs/cm		Better ±0,5% of m.v ±0,1 % FS or ±2 µs/cm
Temperature	±0.2 K		
Nominal temperature	25 °C		
Ambient temperature	-5 ... +80 °C ((short time 100 °C)		
Storage temperature	-5 ... +80 °C		
Connection	plug 7pol bayonet fitting (IP65)		